

IN THE CLAIMS

1. (cancelled)
2. (currently amended) A water soluble tin mesoporphyrin compound comprising a tin mesoporphyrin complexed with at least one amino acid, ~~wherein the tin mesoporphyrin is not derivatized with a complexing agent, and~~ wherein the compound is water soluble.
3. (previously presented) The water soluble tin mesoporphyrin compound of claim 2, wherein the compound is in liquid or solid form.
4. (previously presented) The water soluble tin mesoporphyrin compound of claim 2, wherein the amino acid is selected from the group consisting of arginine, glycine, alanine, leucine, serine, lysine, histidine, phenylalanine, tyrosine and combinations thereof.
5. (currently amended) A pharmaceutical formulation comprising a water soluble tin mesoporphyrin compound comprising a tin mesoporphyrin complexed with at least one amino acid and at least one pharmaceutically acceptable carrier, ~~wherein the tin mesoporphyrin is not derivatized with a complexing agent, and~~ wherein the compound is water soluble.
- 6.-7. (cancelled)
8. (previously presented) The pharmaceutical formulation of claim 5, wherein the water soluble compound is in liquid or solid form.
9. (previously presented) The pharmaceutical formulation of claim 5, wherein the amino acid is selected from the group consisting of arginine, glycine, alanine, leucine, serine, lysine, histidine, phenylalanine, tyrosine and combinations thereof.
10. (previously presented) The pharmaceutical formulation of claim 5, wherein the formulation contains between about 0.1 and about 50 mg of tin mesoporphyrin dichloride.
11. (currently amended) ~~A method of preparing a water soluble amino acid and a tin mesoporphyrin complex~~ comprising mixing a tin mesoporphyrin with at least one amino acid, wherein the resulting complex is water soluble.
12. (previously presented) The method of claim 11, wherein mixing is performed in a basic solution.

13. (previously presented) The method of claim 12, wherein the solution comprises an aqueous solution of sodium hydroxide.

14. (previously presented) The method of claim 12, wherein the amino acid is selected from the group consisting of arginine, glycine, alanine, leucine, serine, lysine, histidine, phenylalanine, tyrosine and combinations thereof.

15. (previously presented) The method of claim 12, wherein the ratio of the tin mesoporphyrin to amino acid is at least about 2:1

16. (previously presented) The method of claim 14, wherein the ratio of the tin mesoporphyrin to basic solution is at least about 1:3.

17. (previously presented) The method of claim 12, further comprising filtering the solution to obtain a solid or a pharmaceutically acceptable liquid.

18. (previously presented) The method of claim 17, wherein when the filtered product is a solid, further comprising vacuum drying the solid.

19. (currently amended) The method of claim 11, wherein the tin mesoporphyrin ~~compound includes~~ comprises a tin mesoporphyrin halide.

20. (previously presented) The method of claim 19, wherein the halide includes tin mesoporphyrin dichloride.

21. (currently amended) The method of claim ~~11~~ 19, ~~wherein the tin mesoporphyrin is produced by a process comprising~~ further comprising, before the mixing step, the steps of subjecting a hemin to a catalytic hydrogenation, recovering a formate salt of the tin mesoporphyrin, drying the formate salt to obtain a tin mesoporphyrin formate, subjecting the tin mesoporphyrin formate to a chemical metal insertion process reaction with a metal halide compound under buffered, reaction conditions to produce a the tin mesoporphyrin halide.

22. (currently amended) A pharmaceutical formulation including ~~a the water soluble complex of the~~ tin mesoporphyrin ~~compound and the~~ at least one amino acid formed by the method of claim 11 mixed with at least one pharmaceutically acceptable carrier.

23. (currently amended) A method of preparing a water-soluble complex of a metal mesoporphyrin, which comprises:

~~subjecting heating~~ a reaction mixture of a hemin and a hydrogenation catalyst ~~for~~
~~to a first elevated temperature and for~~ a first period of time;

supplying hydrogen to the reaction mixture;

subjecting the reaction mixture to a second ~~elevated temperature~~ for a second period of time;

recovering a formate salt from the reaction mixture and drying the salt to obtain a metal mesoporphyrin IX formate;

subjecting the mesoporphyrin IX formate to a chemical metal insertion process reaction with a metal halide compound under reaction conditions to produce a metal mesoporphyrin halide; and

reacting the metal mesoporphyrin halide with at least one amino acid in the presence of a basic solution to produce a water-soluble complex of a metal mesoporphyrin and the at least one amino acid.

24. (previously presented) The method of claim 23, wherein the first temperature is higher than the second temperature.

25. (previously presented) The method of claim 24, wherein the first temperature is between about 85-95°C.

26. (currently amended) The method of claim 25, further comprising adding an acid to wherein the reaction mixture of hemin and hydrogenation catalyst ~~is in an acid and subjected;~~ and subjecting the reaction mixture to hydrogen pressure for at least one hour.

27. (previously presented) The method of claim 26, wherein the second temperature is between about 45-50°C and the second period of time is at least about 3 hours.

28. (previously presented) The method of claim 27, wherein subjecting the mesoporphyrin IX formate to a chemical metal insertion process reaction with a metal halide compound is in the presence of an oxidant under buffered, acidic reaction conditions.

29. (currently amended) A ~~pharmaceutical composition~~ formulation including a the water-soluble complex of the metal mesoporphyrin compound and the at least one amino acid ~~made formed by the process method of claim 23.~~

30. (currently amended) The pharmaceutical ~~composition~~formulation of claim 29, wherein the metal mesoporphyrin ~~compound includes~~comprises tin mesoporphyrin dichloride.

31. (previously presented) The method of claim 23, wherein the amino acid is selected from the group consisting of arginine, glycine, alanine, leucine, serine, lysine, histidine, phenylalanine, tyrosine and combinations thereof.

32.-33. (cancelled)

34. (currently amended) A method of treating a human being with a heme metabolism disorder comprising administering to said human being a pharmaceutically effective amount of a water soluble tin mesoporphyrin compound comprising a tin mesoporphyrin complexed with at least one amino acid, ~~wherein the tin mesoporphyrin is not derivatized with a complexing agent.~~

35. (previously presented) The method of claim 34, wherein the amino acid is selected from the group consisting of arginine, glycine, alanine, leucine, serine, lysine, histidine, phenylalanine, tyrosine and combinations thereof.

36. (previously presented) The method of claim 35, wherein the disorder is hyperbilirubinemia.

37. (previously presented) The method of claim 35, wherein the disorder is psoriasis.